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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,776

06/06/2005

Tomoaki Mori

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4882

22852

7590

07/02/2008

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP

901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

HUNTER, ALVIN A

ART UNIT

PAPER NUMBER

3711

MAIL DATE

DELIVERY MODE

07/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,776	Applicant(s) MORI ET AL.	
	Examiner ALVIN A. HUNTER	Art Unit 3711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6 and 9-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,9-12 and 14 is/are rejected.
- 7) ☒ Claim(s) 13,15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al. (USPN 7037214) (different inventive entity) in view of Kouno (US 2003/0013548).

Regarding claim 1, Nakahara et al. discloses a club comprising a hollow club head which has a face portion, a crown portion, a sole portion, and a side portion wherein a first region whose surface area constitutes 5% or more of the total surface area of the crown portion is formed by a first outer shell member in a region of the crown portion which is located along a connecting edge of the crown portion connecting to the face portion and within a distance of 50mm from the connecting edge, and a second region whose surface area constitutes 5% or more of the total surface area of the sole portion is formed by a second outer shell member in a region of the sole portion which is located along a connecting edge of the sole portion connecting to the face portion and within a distance of 50mm from the connecting edge of the sole portion wherein the first outer shell member is made of carbon fiber reinforced plastic material and the second outer shell is made of a metal alloy. Nakahara et al. also notes the the

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side member has a side portion having an edge which is bent to a side of the crown portion and a face member having a pace portion having an edge which is bent to a side of the crown portion to serve as an extension portion in which the first outer shell member is joined from the outside. Nakahara et al. does not explicitly disclose the ratio of the rigidity of the first and second equivalent rigidity. Kouno discloses a club head having a face, sole, and crown portions, wherein the crown and sole (first outer shell portion) has a thickness of 0.5 to 1.7mm. It should also be noted that Kouno discloses that the club head may be made of any combination of materials. Kouno also notes that the thickness is critical in order to improve restitution without sacrificing durability. The above being noted, carbon fiber reinforced plastic has an elastic modulus of 145 GPa where as steel has a elastic modulus ranging from 186 to 207 GPa. If the thicknesses are the same for both members, the ratio would still be less than 0.75. One having ordinary skill in the art would have found it obvious to have the ratio of any value so long as the durability of the club head is not sacrificed.

Regarding claim 6, see the above regarding claim 1.

Regarding claim 9, Nakahara discloses the face being a metal alloy.

Regarding claim 10, see the above regarding claims 1 and 9.

Claims 3-5, 11, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al. (USPN 7037214) (different inventive entity) in view of Kouno (US 2003/0013548) further in view of Davis (USPN 4971321).

Regarding claims 3-5, see the above regarding claim 1. Further, the thicknesses and the Young's Modulus are already predetermined before assembling the club head

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due to the selection of materials. Also all club head are designed based on USGA parameters which require the club head to be tested at particular speeds. The head speeds are indicative of the weight distribution of the club. The lower the weight within the club head, higher the head speed. It is also common knowledge that every club head has a loft and lie angle. As noted above, the method of designing would have been routine for one skilled in the art. The loft angle dictates the trajectory of the golf ball whereas the lie angle dictates the direction of the shot. Methods of designing would have been routine for one having skill in the art. Davis discloses a set of clubs wherein club has the same parameters except for the loft and lie angles and the shaft lengths wherein distance and head speed are increased. The idea is to design the club set to where the average golfer does not have to change their approach of swinging the club. One having ordinary skill in the art would have found it obvious to design a set of golf clubs such that the parameters are similar for the reasons above.

Regarding claims 11 and 12, see the above regarding claims 3-5. The fiber reinforced material would already have an orientation angle such that the strength of the crown is maximized

Regarding claim 14, see the above regarding claim 1.

Allowable Subject Matter

Claims 13, 15, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1-, 3-6, and 9-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALVIN A. HUNTER whose telephone number is (571)272-4411. The examiner can normally be reached on Monday through Friday from 7:30AM to 4:00PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eugene Kim, can be reached at 571-272-4463. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/A. A. H./

Examiner, Art Unit 3711

/Gene Kim/

Supervisory Patent Examiner, Art Unit 3711